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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SHEH, ANTHONY H

ART UNIT	PAPER NUMBER
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1764

NOTIFICATION DATE	DELIVERY MODE
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11/24/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com
offserv@bipc.com

Office Action Summary	Application No. 10/554,971	Applicant(s) MATHIEU ET AL.	
	Examiner Anthony H. Sheh	Art Unit 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-39 is/are pending in the application.
- 4a) Of the above claim(s) 38 and 39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. This Office action follows a response filed November 16, 2010. No claims are currently amended, canceled, or newly filed. Claims 21-39 are pending. Claims 38 and 39 were previously withdrawn pursuant to a restriction requirement set forth in the Office action mailed May 26, 2010. Claims 21-37 are under examination.

2. Applicant's arguments have been fully considered but are not persuasive. No new grounds of rejections are presented. Accordingly, this action is made FINAL.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 21-37 rejected under 35 U.S.C. 102(b) as being anticipated by **Bougelot et al.**, WO 02/16264 A1 (hereafter '274, for which US 2004/0033186 A1, hereafter '186, has been adopted as an English-language equivalent).

5. The basis of this rejection is adequately set forth in paragraphs 5-11 of the Office action mailed July 16, 2010, incorporated herein by reference.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined

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application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 21-32 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent No. 7,238,738 B2 (hereafter '738).
8. The basis of this rejection is adequately set forth in paragraphs 14 and 15 of the Office action mailed July 16, 2010, incorporated herein by reference.
9. Claims 21-32 are directed to an invention not patentably distinct from claims 1-5 of commonly assigned U.S. Patent No. 7,238,738 B2 (hereafter '738). Specifically, see paragraphs 7 and 8 *supra*.
10. The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned '738, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting

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inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

11. A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

Response to Arguments

12. Applicant's arguments filed November 16, 2010 have been fully considered but they are not persuasive. With respect to the anticipation rejection of claim 21 over **Bougelot** et al., WO 02/16264 A1 (hereafter '274, for which US 2004/0033186 A1, hereafter '186, has been adopted as an English-language equivalent), the argument states that the claim is not anticipated because '264 does not disclose at least 50% by number of the particles as having an aspect ratio less than 100.

13. Specifically, the remarks detail the structure of zirconium phosphosphate (ZrP) lamellar compounds. It is noted this general description is applicable to the prior art, given the fact that the prior art zirconium phosphosphate is obtained through nearly identical means. The ZrP compounds are lamellar in the sense that they are composed to platelet shaped particles arranged in stacks. Each platelet layer has thickness of approximately 1 nm (see page 7 of the response filed November 16, 2010). Applicant's argument asserts that the anticipation standard has not been made, as '274 obtains a composition in which the lamellar compound is exfoliated, a state in which the stacks are dispersed into individual platelets, which have aspect ratio in excess of 100. Applicant quotes the following portion of '264 (para. [0117]):

Compositions obtains as above comprising PA-6 and 5% by weight of compound based on zirconium phosphosphate are observed with TEM with respect to section with a mean

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thickness of 0.1 [microns]. The presence of a great many dispersed inorganic lamellae of nanometre thickness with a width of 50 to 100 nm is observed.

14. It is first noted that the '264 composition has a great many particles having aspect ratio of 50 to 100, not 200 to 500 as stated on page 7 of the response filed November 16, 2010.

Second, page 4 of the instant specification sets forth an explicit definition of "aspect ratio" as referring to "the ratio of the greatest dimension, generally the length, to the thickness of the nanometric lamellar compound."

15. In forming the composition described *supra*, '264 intercalates ZrP particles having aspect ratio between 1 and 2.5 ('264: para. [0110]-[0112]). These particles are simply ion exchanged; they are reasonably expected to have aspect ratio between 1 and 2.5 even after intercalation. The prior art then mixes these particles in a polymerizing medium of caprolactam (para. [0113]). At this point, the composition comprises a thermoplastic matrix and ZrP particles prior to exfoliation. In this state, the ZrP particles still have aspect ratio between 1 and 2.5. Therefore, this intermediate step of forming the '264 composition discussed *supra* satisfies all limitations of the instant claims.

Conclusion

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

17. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony H. Sheh whose telephone number is (571)-270-7746. The examiner can normally be reached on Monday thru Thursday, 9:30a to 3:30p.

19. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu S. Jagannathan can be reached on (571)-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

20. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anthony H Sheh/
Examiner, Art Unit 1764

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1764